

B cam by ~~means of~~ a spring-loaded follower that biases the moveable contact into contact with the pair of stationary contacts when a low profile section of the cam faces the follower;

one or more auxiliary sections stacked on the base side opposite the power sections for controlling auxiliary devices; and

electrically conductive exterior interconnections for connecting selected externally mounted electrical terminals;

wherein manual rotation of the shaft causes the cams to rotate and act upon the moveable contacts to cause them to move either into or out of contact with the stationary contacts, thus causing electrical power to be disconnected from both the incoming lines into the inverter drive and the outgoing lines from the inverter drive.

REMARKS

Drawings

Applicant will submit formal drawings when the application is allowed.

Claim Rejections - 35 USC §112

The Examiner rejected claims 1-13 under 35 U.S.C. §112, second paragraph. Claim 1 has been deleted and replaced with new claim 14, which applicant believes overcomes the §112 rejections.

Claim Rejections - 35 U.S.C. §102 - Rasor et al. or Morioshi

The Examiner rejected claim 1 as being anticipated by either Rasor et al. or Morioshi. Applicant has deleted claim 1 and

replaced it with claim 14. Applicant believes new claim 14 is not anticipated by Rasor et al. or Morioshi for the following reasons.

First, new claim 14 requires radially sliding moveable contacts. Neither Rasor nor Morioshi disclose radially sliding contacts. Instead, they disclose pivotally mounted moveable contacts (See, eg., Rasor Figs. 18-21 and Morioshi Fig. 1).

Second, new claim 14 requires a single shaft on which the cams are mounted. Neither Rasor nor Morioshi disclose a single central shaft. Rasor discloses a series of shafts telescoped into cams to form a central operating unit (Fig. 15 - spline shaft 341 telescopes into the CSP' for rotation therewith). Likewise in Morioshi, the cams 13 form a part of a centrally operating unit (Figs. 6-7).

Third, the present invention is designed specifically for use as an inverter bypass safety switch. Neither Rasor nor Morioshi indicate that they would work as an inverter bypass safety switch. In fact, neither Rasor nor Morioshi indicate any specific use for the switches described therein.

Morioshi is further distinguished because it does not teach double contacts, which are required by new claim 14.

Claim Rejections - 35 U.S.C. §102 - Heng et al., Fujita, Alsch or Schaeffer

The Examiner rejected claims 1 -3 as being anticipated by either Heng et al., Fujita, Alsch or Schaeffer. Applicant has deleted claims 1 - 3 and replaced them with new claim 14.

Applicant believes new claim 14 is not anticipated by Heng,

Fujita, Alsch or Schaeffer for the following reasons.

First, new claim 14 requires radially sliding moveable contacts. Alsch does not disclose radially sliding contacts. Instead, Alsch discloses pivotally mounted moveable contacts (See, eg., Fig. 3).

Second, new claim 14 requires a single shaft on which the cams are mounted. Fujita does not disclose a single shaft on which cams are mounted. Rather, Fujita describes a single switch cam unit (Figs. 2-7) that may be attached to other cam units, as in Fig. 1. No mention or description of a shaft on which the cams may be mounted is given in Fujita. At best, it is possible, although by no means disclosed in Fujita, that a single shaft may be used to mount all the cams.

Third, claim 14 requires that the switch be capable of handling high power motor loads, whereas Fujita describes a selector switch suitable only for low power applications. That Fujita is a low power switch is apparent from the apparent size and design of the Fujita switch, in particular the fact that there are no connecting bridges to jump the various stages together (see Fig. 1) and the fact that the contacts 5 in Figs. 4 and 5 are low power contacts. It is common industry knowledge that such a switch would only be suitable for low power applications.

In contrast to Fujita, applicant's claim 16 requires "electrically conductive exterior connections" or connecting bridges (element 33 in applicant's Figs. 1 and 2) to jump one

stage to another. This is typical of high power switches. Furthermore, applicant's switch comprises high power contacts 30 connected to heavy bolt type terminals 31 (see applicant's Figs. 4 and 5), further evidence that applicant's switch is designed for high power applications.

Fourth, the present invention is designed specifically for use as an inverter bypass safety switch. Neither Heng et al., Fujita, Alsch or Schaeffer indicate that they would work as an inverter bypass safety switch.

Heng is further distinguished because the switches disclosed in Heng would not work in the claimed invention. Heng makes specific reference to "wafer" switches (Col. 1, line 11 and col. 3, line 26) which is industrial terminology generally indicating a low amperage (less than ten amp) switch. By contrast, the present invention is not limited to such low amperage applications, but can be used with applications up to 630 amps.

Claim 4 Rejection - 35 U.S.C. §103 - Alsch, Fujita, Heng et al. or Schaeffer considered with Arnold

The Examiner rejected claim 4 under 35 U.S.C. Section 103 as being unpatentable over Alsch, Fujita, Heng et al. or Schaeffer in view of Arnold, noting that Arnold teaches silver cadmium oxide contacts, as required in claim 4. Applicant has withdrawn claim 4.

Claim 5, 6, 7, 8, 10, 11, 12 Rejections - 35 U.S.C. §103

The Examiner rejected claims 5, 6, 7, 8, 10, 11 and 12 under 35 U.S.C. Section 103 as being unpatentable over Heng et al. considered with Rasor et al. or Morioshi. Applicant has

withdrawn claims 5, 6, 7, 8, 10, 11 and 12 from consideration and added new claims 14 and 15. Applicant believes new claims 14 and 15 are patentable over Heng et al. considered with Rasor et al. or Moriooshi for the reasons given above.

Claim 13

The Examiner alleges that "it is prima facie obvious that the Heng et al switch is designed for controlling at least four different electrical operation functions and do not preclude the four functions or patterns disclosed in claim 13 including DRIVE, LINE, OFF AND TEST functions or patterns." Applicant has withdrawn claim 13 and replaced it with new claim 15. Applicant believes that new claim 15 is not obvious in view of Heng et al.

New claim 15 is directed toward a switch that enables electrical current to bypass an inverter during an electrical disturbance. As noted in the specification at page 1, lines 19-21, inverters are used in applications including conveyors, fans, cooling towers, and extruders. These applications are typically high amperage applications. Heng, with its "multi-wafer switches" is designed for low amperage applications. Thus Heng does not teach a switch that is usable as an inverter bypass safety switch. It follows that new claim 15 is not obvious in view of Heng.

Claim 9

In view of Examiner's rejection of claim 9 under 35 USC §103, Applicant has withdrawn claim 9.

New claim 16

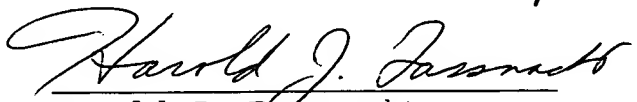
Applicant has added new claim 16, which is similar to new claim 14 but requires, in addition to power sections, auxiliary sections for controlling low current applications such as drive control circuits and pilot lights. (Support for this limitation in new claim 16 is found, among other places, at page 6, lines 10-20, as well as in Fig. 1.)

In addition, new claim 16 requires a switch that can be configured such that a turn of the shaft causes electrical power to be disconnected from both the incoming lines into the inverter drive and the outgoing lines from the inverter drive. (Support for this limitation is found on page 10, lines 6-12 and Fig. 7.) None of the prior art patents describes such a switch.

Applicant submits that new claims 14, 15 and 16 are patentably distinguishable over the prior art, and requests an allowance of these new claims.

The Examiner is invited to telephone applicant's undersigned attorney if any unresolved matters remain.

Respectfully submitted, ✓


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I hereby certify that the attached correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231, on January 27, 1997.

Patricia J. Fox ✓